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TRANSGENIC MICE AS A MODEL FOR NEUROVIRULENCE TEST OF LIVE POLIOMYELITIS VACCINES

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Abstract Transgenic mice carrying the human poliovirus receptor (PVRTg21) were inoculated intraspinally with 3 poliovirus vaccine type 3 (WHO/Ⅲ, 93/363 and 3J) and 1 wild virus (Leon). The clinical data and pathological data indicated that Leon viruses were the most strong neurovirulent. Even a dose of 100 $TCID_{50}$ could make 100% of the Transgenic mice paralysis and death. When inoculated with 5.5 log10 $TCID_{50}$ of the vaccine reference (WHO/Ⅲ), only 87.1% of the mice paralyzed and 51.7% of the mice died, and the other 2 lots of poliomyelitis vaccine (93/363 and 3J) were higher in the neurovirulence than the vaccine reference (WHO/Ⅲ). A good correlation was found between the monkey neurovirulence test (MNVT) and the PVRTg21 mouse neurovirulence test for the 3 vaccine lots. The experimental results showed that the PVRTg21 transgenic mice should possibly be an animal model for the neurovirulence evaluation of live poliomyelitis vaccines and epidemiological surveillance.

Key words Live poliomyelitis vaccine, Neurovirulence test, Transgenic mice, Animal model



黑龙江省又发现一个新的丹顶鹤繁殖地

哈拉海湿地位于松嫩平原西北端，黑龙江省龙江县西北部，123°12′～123°35′E，47°36′～47°40′N。总面积为24 000 hm²。区内湖泡遍布，最大一个湖泡面积近2 000 hm²。沼泽类型主要为芦苇沼泽，面积超过10 000 hm²。区内无任何居民点，每年只有少数渔民在此捕鱼。因此，本区仍保持着原始景观。优良的生态环境，每年都吸引近百万只水鸟来此栖息繁衍。

笔者于1999-06对此区进行了短暂的考察。共记录到丹顶鹤（*Grus japonese*）15只（其中实体12只，听到鸣叫3～5只）。该区另外还有几个丹顶鹤繁殖点，但因时间关系我们未能前往实地考察。但据我们估计本区夏季留居的丹顶鹤至少在20～30只。在考察中，我们还访问了一些居民及渔民。从中了解到春季迁徙时丹顶鹤的数量达150多只。几年前还有6～10只大天鹅（*Cygnus cygnus*）在此繁殖，近几年则未见来此繁殖。迁徙时雁鸭类达数十万只，加上鸥类、鸻鹬类每年来此停息的水禽达百万只。在哈拉海沼泽区周围是大片的干草原，每年均有数十只大鸨（*Otis tarda*）在此繁殖。迁徙数量达数百只。1998年春季见到的最大迁徙群为50多只。

此区距扎龙自然保护区仅有80 km，且生境极其相似，是否有白枕鹤（*Grus vipio*）和灰鹤（*Grus grus*）在此繁殖仍须做进一步调查。

关键词 丹顶鹤，繁殖地，哈拉海，黑龙江省
中图分类号 Q959.726

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本文1999-06-30收到